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NEW SPECIES OF ELATINE IN CALIFORNIA

Herbert L. Mason

In preparing the treatment of the Elatinaceae for a work on the flora of the marshes and ponds of California, it became clear that *Elatine* presents a perplexing problem in speciation. The differences between aquatic and terrestrial forms of the same species often seem greater than the differences between species. The genus is in need of a thorough cultural study designed to test the nature of characters and their validity as criteria of species. In the meantime one is faced with the problem of "lumping" the various entities in a few long-recognized species and thereby concealing the problem, or of recognizing more taxa in an attempt to at least pose some of the problems in the group. I shall follow the latter course. It seems clear that there is a New World and an Old World facies in the genus as evidenced in the tendency towards reduction of the calyx in the 3-merous species of the New World. Furthermore the fact that in some 3-stamen species the stamens are opposite the carpels and in others alternate, but never are they opposite the petals, suggests marked instability in the number of whorls of stamens in the genus. Because of the above problems we find no evidence to support the reference of our 3-merous species to the European *E. triandra* as has long been the practice. This latter species has a regular 3-merous calyx with all sepals very small in proportion to the corolla. Our plants which have in the past been referred to *E. triandra* all have 2 large oblong sepals often equalling the corolla in length and the third much reduced or absent. On the other hand the introduced rice field weed, *E. ambigua,* has three regular sepals. Field study of the group makes one suspicious that both apomixis and cleistogamy have operated to complicate the pattern of variation. This needs investigation. I have found nothing referrable to *E. americana* in California.

Elatine gracilis sp. nov. Plantae graciles erectae 2–4 altae foliis oppositis subaequalibus vel internodia paulo excedentibus ad bases petiolis similes angustatis stipulis laceratis attenuatis instructis flore nodo quoque unico sessili sepalis duo tertio reducto vel deficiente petalis tribus membranaceis fere orbicularibus staminibus tribus vel uno vel nonnumquam deficientibus carpellis alternantibus seminibus rectis vel paulo curvatis in loculo quoque 7–8 areolarum ordinibus 9–10 areolis in ordine unoquisque 20–30 partibus testae elevatis horizontalibus infra areolarum ordines manifestioribus quam eis longitudinalibus habitu plantarum aquatilum terrestriumque simili.

Plants slender, erect, 2–4 cm. high; leaves opposite, subequal to slightly longer than internodes, narrowed to a petiole-like base with attenuate lacerate stipules; flowers 1 to a node, sessile; sepals 2, a third sepal reduced or wanting; petals 3, thin membranous, almost orbicular, stamens 3–1 or sometimes none, alternate the carpels; seed straight to slightly curved, 7–8 per locule, the areolae in 9–10 rows, 20–30 areolae in each row; the horizontal ridges more conspicuous than longitudinal; aquatic and terrestrial plants similar in habit.

Type. Terrestrial; 0.4 mile south of Little Truckee River Bridge on Hiway 89, altitude ca. 6300 feet, Sierra County, California, 17 August 1952, *Herbert L. Mason 14,494* (UC 985951).

Elatine heterandra sp. nov. Plantae procumbentes foliis oppositis 2–4 mm. longis obovatis vel oblongo-ellipticis stipulis hyalinis lanceolatis ca. 1 mm. longis floribus nodalibus solitariis inter se alternantibus trimeribus staminibus 3–6 ac quando 3-carpellis oppositis seminibus in loculo quoque 8–12 rectis vel curvatis ad apicem versus rotundatis hilo truncatis apiculatisque areolis in ordinibus 9–10 positis in ordine quoque 12–15.

Prostrate plants, leaves opposite, 2–4 mm. long, obovate to elliptic-oblong; stipules hyaline, lanceolate about 1 mm. long; flowers solitary at nodes and alternate one another, 3-merous, stamens 3–6 when 3 opposite carpels; seed 8–12 per locule, straight or curved, rounded above, truncate and apiculate at hilum, areolae in 9–10 rows, 12–15 in each row.

Type. Pond, 1.5 miles east of Calpine at junction of Calpine with Sierraville-Beckwourth road, altitude ca. 5000 feet, Sierra Valley, Sierra County, California, 19 July 1952, *Herbert L. Mason 14,450* (UC 985952), topotype, *Mason 14,448;* Snow's Lake, Lake County, California, *Mason 14547.*

Elatine obovata (Fassett) comb. nov. *Elatine triandra* var. *obovata* Fassett, Rhodora 41: 375. 1939.

Elatine obovata has been treated by Fassett as a variety of the European *E. triandra.* It seems more closely rleated to *E. brachysperma* in seed character while the size and shape of the leaves and the pattern of distribution clearly set it apart from that species.

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